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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CLEARY, THOMAS J

ART UNIT

PAPER NUMBER

2181

DATE MAILED: 09/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/773,850

Applicant(s)

EICHLER ET AL.

Examiner

Thomas J. Cleary

Art Unit

2181

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: Numbers 822 and 826 in Figure 8. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The spacing of the lines of the specification is such as to make reading and entry of amendments difficult. New application papers with lines double spaced on good quality paper are required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 6, 7, 12, 13, and 18 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Chari. Chari teaches a method which can display information about a computer system, including identifying busses, identifying slots (which can include PCI slots), identifying devices coupled to the busses and slots, and determining if any devices are present in the slot. The method also indicates the number of available slots, since information concerning the presence of absence of a device is returned for all slots. The method does not require a physical inspection of the slots to determine this information (See Figures 2A, 2B, 29, 33, and 34, Column 4 Lines 43-58, and Column 6 Lines 49-54 of Chari). Chari further teaches an apparatus in which the method is an application run on a computer system (analogous to being software on a computer readable medium of Claims 7 and 12) (See Figures 1, 4, and 7, Column 2 Lines 54-67, and Column 3 Lines 1-9 of Chari). The computer system comprises a processor and a memory for storing information about the system being scanned (See Figure 1, Column 6 Lines 35-48, and Column 9 Lines 5-12 of Chari).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 5, 8, 11, 14, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chari in view of Cepulis. Chari teaches all the limitations of Claims 2, 8, and 14 except for identifying the bus number and device number for at least one PCI slot using a PCI Interrupt Request Routing Table (See Figures 2A, 2B, 29, 33, and 34, Column 4 Lines 43-58, and Column 6 Lines 49-54 of Chari). Chari teaches all the limitations of Claims 5, 11, and 17 except for identifying available PCI slots by comparing the bus number and device number of a slot with the bus number and slot number of a device (See Figures 2A, 2B, 29, 33, and 34, Column 4 Lines 43-58, and Column 6 Lines 49-54 of Chari). Cepulis teaches the use of a PCI Interrupt Request Routing Table to track PCI bus, device, and slot numbers (See Column 6 Lines 3-7 of Cepulis). Cepulis further teaches comparing the current values of the PCI bus and device numbers with a set of values stored in memory (See Column 14 Lines 31-37 of Cepulis). One of ordinary skill in the art at the time the invention was made would combine the method and apparatus of Chari with the PCI Interrupt Request Routing Table use of Cepulis, resulting in the inventions of Claims 2, 8, and 14, and the

comparison method of Cepulis, resulting in the inventions of Claims 5, 11, and 17, in order to provide a system which uses the most accurate copy of the bus, device, and slot numbers, since the table was loaded at startup and thus will reflect the most up to date configuration of the system (See Column 6 Lines 11-13 of Cepulis), and to provide the method and apparatus of Chari with a means for determining availability of a slot, since Chari does not specifically state how the information is obtained. Since this means is simple and will perform its function quickly, the time the user must wait is reduced.

7. Claims 3, 9, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chari and Cepulis as applied to Claims 2, 8, and 14 above, and further in view of the "PCI IRQ Routing Table Specification" from Microsoft Corporation. Chari and Cepulis teach all the limitations of Claims 3, 9, and 15 except for locating the routing table in a read-only memory ("ROM") in the computing device (See Figures 2A, 2B, 29, 33, and 34, Column 4 Lines 43-58, and Column 6 Lines 49-54 of Chari; and Column 6 Lines 3-7 of Cepulis). The PCI IRQ Routing Table Specification teaches locating the routing table in a ROM array (See Page 6 Paragraph 3 of PCI IRQ Routing Table Specification). One of ordinary skill in the art at the time the invention was made would combine the method and apparatus of Chari and Cepulis with the routing table located in a ROM array of the PCI IRQ Routing Table Specification, resulting in the inventions of Claims 3, 9, and 15, in order to provide a system which allows a PCI to PCI bridge add-in card in which the IRQ routing table only needs to describe the routing of the bridge's INTn# lines to the PCI interrupt router, or a transparent PCI to PCI bridge in which the

IRQ routing table must report the IRQ routing for all devices behind the bridge, even when they are not present. Each of these devices provide a means for expanding the PCI bus in which a static routing table in a ROM array would be preferable to a dynamic routing table (See Page 6 Paragraph 7 and Page 7 Paragraphs 1-4 of PCI IRQ Routing Table Specification).

8. Claims 4, 10, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chari in view of Mahalingam. Chari teaches all the limitations of Claims 4, 10, and 16 except for identifying PCI devices coupled to a PCI bus comprising identifying bus number and a device number for each PCI device coupled to the PCI bus (See Figures 1, 2A, 2B, 4, 7, 29, 33, and 34, Column 2 Lines 54-67, Column 3 Lines 1-9, Column 4 Lines 43-58, and Column 6 Lines 49-54 of Chari). Mahalingam teaches a method in which a unique number identifying a PCI device is calculated from a bus number and a device number (See Figure 1 and Column 2 Lines 40-51 of Mahalingam). One of ordinary skill in the art at the time the invention was made would combine the method and system of Chari with the method for identifying a PCI device of Mahalingam, resulting in the inventions of Claims 4, 10, and 16, in order to provide the method and system of Chari with a means for obtaining its slot and device information, since Chari does not specifically state how the information is obtained and since Chari incorporates by reference the method of Mahalingam (See Appendix A of Chari).

9. Claims 19, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chari and Cepulis as applied to Claims 2, 5, 8, 11, 14, and 17 above, and further in view of Mahalingam. Chari and Cepulis teach all the limitations of Claims

Art Unit: 2181

19, 20, and 21 except for identifying a bus number and a device number for any PCI devices coupled to the PCI bus (See Figures 2A, 2B, 29, 33, and 34, Column 4 Lines 43-58, and Column 6 Lines 49-54 of Chari; and Column 6 Lines 3-7 of Cepulis).

Mahalingam teaches a method in which a unique number identifying a PCI device is calculated from a bus number and a device number (See Figure 1 and Column 2 Lines 40-51 of Mahalingam). One of ordinary skill in the art at the time the invention was made would combine the methods and apparatuses of Chari and Cepulis with the method for identifying a PCI device of Mahalingam, resulting in the inventions of Claims 19, 20, and 21, in order to provide the systems of Chari and Cepulis with a means for obtaining the slot and device information, since Chari and Cepulis do not specifically state how the information is obtained and since Chari incorporates by reference the method of Mahalingam (See Appendix A of Chari and Column 6 Lines 11-13 of Cepulis).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Cleary whose telephone number is 703-305-5824. The examiner can normally be reached on Monday-Thursday (8-5:30), Alt. Fridays (8-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark H. Rinehart can be reached on 703-305-4815. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-5631.

tjc



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